

LIGHT SOURCE STRUCTURE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a light source structure, and particularly
5 relates to a light source structure adopted for documents, negative films, or
positive films scanned.

2. Background of the Invention

With reference to FIG. 1 and 2, a guidelight plate 9 and a lighting unit 8
include a lamp 80 and a plurality of lighting components 81. The lighting
10 components 81 include a circuit board 82, and a plurality of LEDs and resistors
disposed on the circuit board 82. The guidelight plate 9 is a flat, rectangular,
and transparent plate with a recess 90 formed in a side thereof and shaped like a
square for receiving the lamp 80 therein. The lighting component 81 is
installed on an elongated side 91 of the guidelight plate 9. The elongated side
15 91 is adjacent to the recess 90, and thus the lighting components 81 and the
lamp 80 together are disposed on the same side of the guidelight plate 9.

Connections between the lighting unit 8 and the guidelight plate 9 include
disposing the lighting components 81 and the lamp 80 on the same side wall of
the guidelight plate 9 and arranging the lighting components 81 higher than the
20 lamp 80 when assembling the same onto the guidelight plate 9. That, however,
leads light emitted from the lighting components 81 and the lamp 80 through
different transmission passages with different thicknesses. The light of the lamp
80 passes around a corner adjacent to the recess 90 and is interfered with

thereby to decrease luminance and uniformity of the guidelight plate 9. Furthermore, connections between lighting unit 8 and the guidelight plate 9 needs a thick thickness incurring higher costs.

Hence, an improvement over the prior art is required to overcome the
5 disadvantages thereof.

SUMMARY OF INVENTION

The primary object of the invention is therefore to specify a light source structure with a reduced thickness thereof due to a lighting unit with a particular location, so that volume thereof shrinks and costs accordingly
10 diminish.

The secondary object of the invention is therefore to specify a light source structure with a high luminance and a high uniformity thereof.

According to the invention, this object is achieved by a light source structure including a guidelight plate and a lighting unit including a lighting
15 member and a plurality of lighting components respectively disposed on sides of the guidelight plate.

To provide a further understanding of the invention, the following detailed description illustrates embodiments and examples of the invention. Examples of the more important features of the invention thus have been summarized
20 rather broadly in order that the detailed description thereof that follows may be better understood, and in order that the contributions to the art may be appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will form the subject of the claims appended hereto.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features, aspects, and advantages of the present invention will become better understood with regard to the following description, appended claims, and accompanying drawings where:

5 FIG. 1 is a decomposition view according to a conventional light source structure;

FIG. 2 is a cross-sectional profile according to the conventional light source structure;

10 FIG. 3 is a decomposition view of a light source structure according to the present invention;

FIG. 4 is a perspective view of the light source structure according to the present invention;

FIG. 5 is a cross-sectional profile of the light source structure according to the present invention; and

15 FIG. 6 is a perspective view of the light source structure according to another embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

Referring to FIG. 3 to 5, the present invention provides a light source
20 structure including a lighting unit 1 and a guidelight plate 2. The lighting unit 1 includes a lighting member 10 and a plurality of lighting components 11. The lighting member 10 is a CCFL (Cold Cathode Florescent Lamp). The lighting components 11 include a circuit board 12 and a plurality of LEDs (Light

Emitting Diode) and resistors 14. The lighting member 10 and the lighting components 11 respectively connect power cores 15 for providing power. The guidelight plate 2 is a flat, rectangular, and transparent plate, and has two elongated sides 20 opposite each other. The lighting member 10 and the
5 lighting components 11 are respectively disposed on the two elongated sides 20. Thus, the present invention light source structure is assembled.

When the light source structure is in use, lights emitted from the lighting member 10 and the lighting components 11 is transmitted through the sides 20 uniformly. The sides 20 have the same thickness; accordingly, a luminance
10 and a uniformity of the guidelight plate 2 can be improved.

With respect to FIG. 6, another embodiment of the present invention, the lighting member 10 disposes on a side 20' of the guidelight plate 2', and the lighting components 11 are disposed respectively on two lateral sides 20' of the guidelight plate 2. The two lateral sides 20' are perpendicular to the side 20.

15 According to the present invention, the lighting member 10 (10') and the lighting components 11 (11') are respectively disposed on sides of the guidelight plate 2 (2'). The light source structure needs no additional recess formed in the guidelight plate 2 for receiving the lighting member; thus the guidelight plate 2 has a reduced thickness to shrink a volume thereof and to cut
20 off costs thereby. Furthermore, light emitted by the lighting member 10 (10') and the lighting components 11 (11') can be transmitted through the guidelight 2 with uniform thickness; thus the luminance and the uniformity of the guidelight plate 2 can be increased.

It should be apparent to those skilled in the art that the above description

is only illustrative of specific embodiments and examples of the invention. The invention should therefore cover various modifications and variations made to the herein-described structure and operations of the invention, provided they fall within the scope of the invention as defined in the following appended

5 claims.